GEIA/TechAmerica DMSMS Management Plan Industry Standard Update

Boeing Research & Technology
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Agenda

- **Background**
- **Team Participation**
- **Document Development Process**
- **Review Standard Content**
- **Next Steps**

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Why is an Industry Standard Needed?

There is currently no GEIA Industry Standard for DMSMS

- **GEIA published an Engineering Bulletin (GEB-1) on DMSMS but this is a Best Practices/Guidance document**

GEIA currently includes DMSMS Management as an element of Parts Management in Industry Standard EIA-4899 "Standard for Preparing an Electronics Component Management Plan"

- **EIA-4899 provides little detail on what is needed in the DMSMS Management Process**
- **Industry has been forced to interpret EIA-4899 resulting in company specific implementation**
- **Inconsistent flow down of requirements to Supply Chain which hampers Supply Chain's ability to use a common process for multiple customers**

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Background/Status

GEIA Avionics Process Management Committee (APMC) voted to kick-off activity to develop DMSMS Industry Standard in May 2010.

- **Boeing was asked to lead the team**
- **Participants drawn from the APMC and the Parts Standardization & Management Committee (PSMC)**
  - **PSMC provided opportunity for significant DoD participation**
- **Target to have the Standard released in a year**

Joint Industry/Government Team formed to develop Standard

- **Kick-off meeting in July 2010**
- **Team has met several times over the past 8 months working on Standard**
- **Final draft submitted to APMC on March 22**

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Team Participants

The Standard Development Team had widespread participation from Government and Industry.

- **Government Representation**
  - **DSPO**
  - **Army (AMRDEC, TARDEC)**
  - **Navy (NAVAIR, NAVSEA)**
  - **Air Force**
  - **Defense Logistics Agency**
- **Industry Representation**
  - **Boeing**
  - **Northrop-Grumman**
  - **Honeywell**
  - **BAE**
  - **ARINC**
  - **NCI Information Systems**
  - **Applied DNA Sciences**

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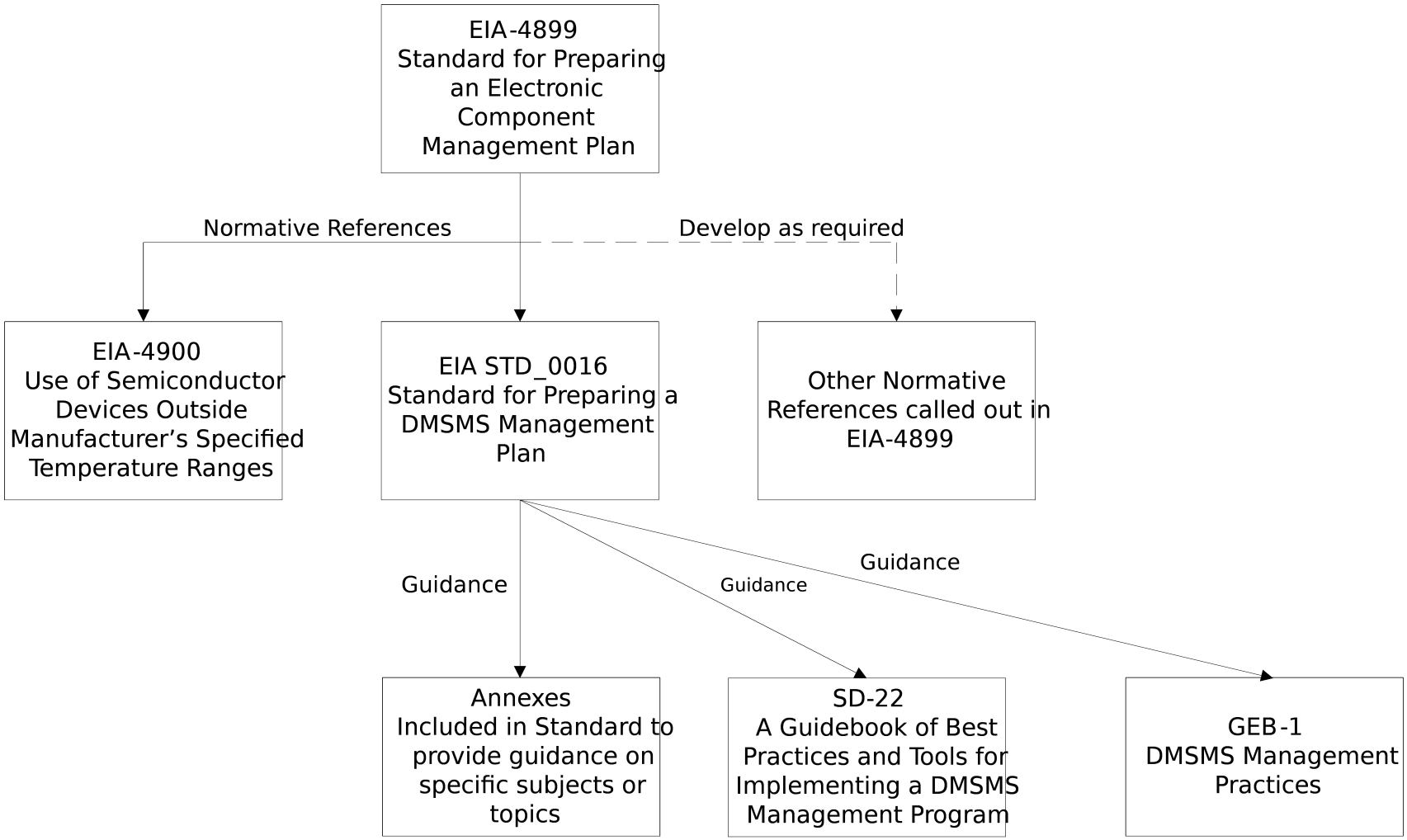
GEIA Parts/DMSMS Document Tree


EIA-4899
Standard for Preparing an Electronic Component Management Plan
Normative References
Develop as required
EIA-4900
Use of Semiconductor Devices Outside Manufacturer's Specified Temperature Ranges
EIA STD_0016
Standard for Preparing a DMSMS Management Plan
Other Normative References called out in EIA-4899
Guidance
Guidance
Guidance
Annexes
Included in Standard to provide guidance on specific subjects or topics
SD-22
A Guidebook of Best Practices and Tools for Implementing a DMSMS Management Program
GEB-1
DMSMS Management Practices

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Standard Development

Purpose of the Standard is to define the minimum requirements of a DMSMS Management Plan

- **Describe a proactive DMSMS Process**
- **Life Cycle focus covering Design, Manufacturing and Support**
- **Intended for System Integrators, Original Equipment Manufacturers and Logistic Service Providers of Aerospace and Hi-Rel equipment**
- **Document will not contain detailed “how to” language on implementing specific requirements**
- **Leverage existing best practices documented by Industry**
- **Additional guidance provided in Annexes and also reference other DMSMS Guidance Documents (SD-22, GEB-1)**

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Standard Development

Document form to be consistent with GEIA Standard for Parts Management (EIA-4899)

- **Scope:** What the document/standard covers
- **Normative References:** Reference documents that define requirements as specified in the Standard
- **Informative References:** Reference documents that are purely guidance or information only
- **Terms and Definitions:**
- **Technical Requirements:** Elements that must be addressed in the DMSMS Management Plan
- **Plan Administration Requirements:** Defines how the Plan should be written/organized

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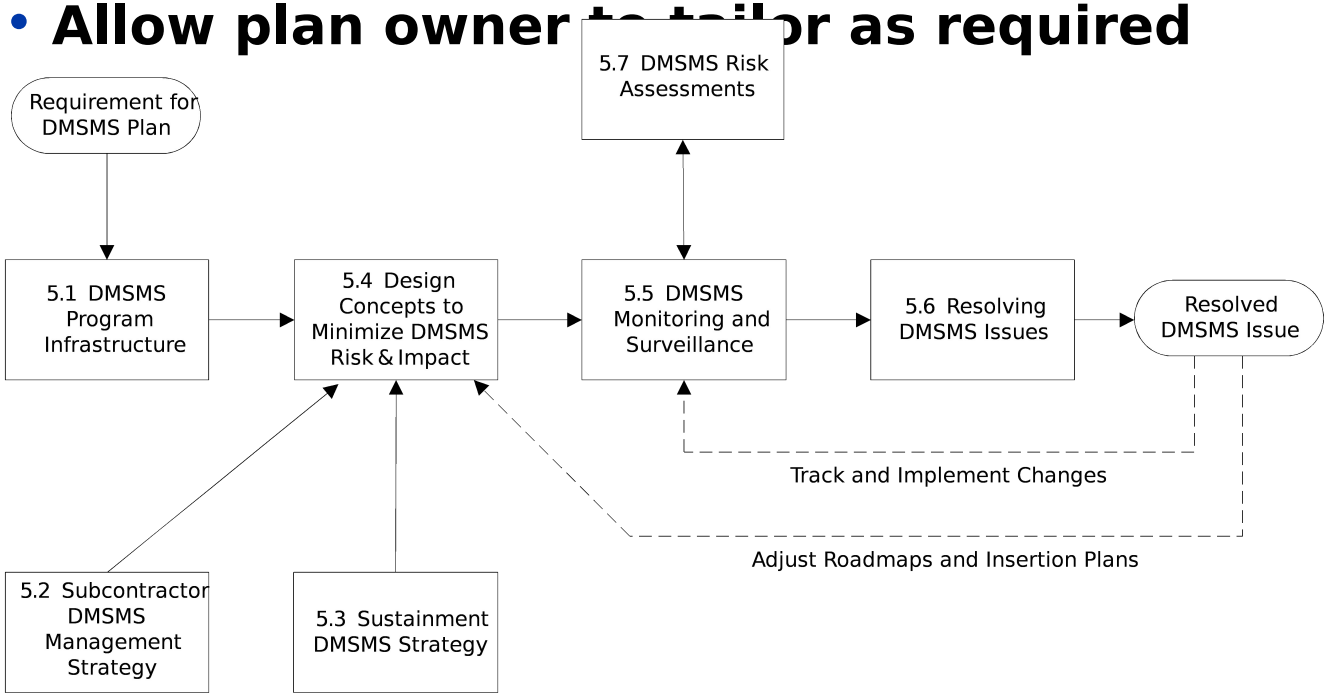
Document Review

Technical Requirements

- **Program shall have a plan that documents how the plan owner will meet the requirements in 5.1 thru 5.7**
- **Allow plan owner to tailor as required**


Requirement for DMSMS Plan
5.7 DMSMS Risk Assessments
5.1 DMSMS Program Infrastructure
5.4 Design Concepts to Minimize DMSMS Risk & Impact
5.5 DMSMS Monitoring and Surveillance
5.6 Resolving DMSMS Issues
Resolved DMSMS Issue
Track and Implement Changes
Adjust Roadmaps and Insertion Plans
5.2 Subcontractor DMSMS Management Strategy
5.3 Sustainment DMSMS Strategy

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5.1 DMSMS Program Infrastructure

- **Describe the process for creating the program DMSMS Team and define roles and responsibilities**
  - **DMSMS Team composition (cross functional)**
  - **DMSMS focal**
- **Address Customer interface and participation with Program DMSMS Team**
- **Identify the capabilities of the Data Management system used to support the process**
  - **BOM Monitoring and EOL notification**
  - **Tracking approved DMSMS solutions to completion**
  - **Obtain information needed to support impact assessments**
- **Define the funding mechanism for the**

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5.2 Subcontractor Management Strategy

- **May not be applicable for some DMSMS Plan Owners**
- **Define Strategy and Roles & Responsibility of DMSMS Management tasks performed by Subcontractors**
- **Describe necessary items to implement DMSMS strategy which could include**
  - **SOW flow down language to supply chain**
  - **Data Items delivered from Subcontractors (BOMs, DMSMS Plan, Trade studies, reports, etc.)**
  - **Notification from Subcontractors when DMSMS issues identified**
  - **Status on inventory management of LTB assets**
- **Describe process used to verify that Subcontractor is meeting SOW requirements (Reviews, Audits, third party certification, etc.)**

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5.3 Sustainment Strategy

- **The plan shall address Sustainment specific issues to reduce life cycle costs**
- **Plan Owner and Customer define Sustainment strategy and develop or modify processes needed to implement strategy.**
  - **Technology Insertion Planning**
  - **DMSMS resolution trade studies**
  - **Last Time Buy Inventory Management**
  - **Impact assessment (loss of repair/support capability)**

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5.4 Design Concepts to Minimize DMSMS Risk/Impact

- **System design shall address concepts to minimize the occurrence and risk of DMSMS during the life of the program to include:**
  - **Part Selection/Management including procurement practices**
  - **Technology Development – Insertion plans, roadmaps**
  - **Open Systems Architecture**
  - **Software partitioning/portability**
  - **COTS Hardware Management**
  - **Design for Reliability**
  - **Design Capture of critical items for future rehost or design transfer**
- **System integrator should work with customer to identify unique requirements that could drive system design**

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5.5 DMSMS Monitoring/Surveillance

- **Describe how parts and materials will be monitored for potential obsolescence**
  - **BOMs (acquiring, formatting, updates/maintenance)**
  - **Describe the network of information sources used to obtain EOL/discontinuance notices (DMSMS Tools, GIDEP, Shared Data Warehouse Gateway, Suppliers, etc.)**
  - **Non-electronic parts and materials monitoring process**
  - **Frequency that monitoring takes place**
- **Document process for determining whether specific part or material types will be actively monitored**
- **Describe Internal Alert Processing (verification, data collection)**

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5.6 Resolving DMSMS Issues

- **Describe how Program assesses the impact of identified DMSMS issues**
  - **Identify used-on equipment**
  - **Production should determine when line stoppage will occur**
  - **Sustainment should perform an operations impact analysis**
- **Define the process used to select a recommended solution for the DMSMS issue**
  - **Solutions considered (using SD-22 as guidance)**
  - **Trade study to assess potential solutions**
  - **Business case that includes a life cycle cost analysis**

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5.6 Resolving DMSMS Issues

- **Define the process for reviewing and approving proposed DMSMS solutions**
  - **Address approval of subcontractor submitted solutions**
  - **Define customer role in process**
  - **Does subcontractor have authority to implement solutions without specific Plan Owner approval?**
- **Describe the process and tools used to manage DMSMS cases to completion**
- **List the metrics used to document program effectiveness or benefit**

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5.7 DMSMS Risk Assessments

- **Describe the process to proactively assess potential DMSMS risk at the parts and materials level**
  - **Identify parts/materials that may be near-term DMSMS issues**
  - **Closely tied to monitoring process**
- **Describe the process for assessing DMSMS risk at the assembly level**
  - **Long-term producibility and sustainability**
  - **Potential roadmap impacts**
- **Show how potential risks are prioritized and the typical risk mitigation activities that may be used**
- **Define customer reporting**

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Appendices/Annexes

The following guidance information will be included in Appendices to the Standard

- **Discussion of DMSMS Program Levels and how to select the appropriate level for your Program**
- **Software design concepts to minimize DMSMS risk**
- **Guidance on dealing with COTS Equipment**
- **Performing an Operations Impact Analysis**
- **Detailed description of potential DMSMS Solutions**
- **Performing a Business Case Analysis to support DMSMS solution selection**
- **Cost avoidance metrics**

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Next Steps

- **Document is currently in review process at GEIA/TechAmerica**
  - **Timetable for balloting is still TBD**
  - **Review will be within the Avionics Process Management Committee**
- **Have agreement with Defense Standardization Program Office) to run concurrent review with DoD Reviewers**
- **Comment resolution to address GEIA/TechAmerica and DoD generated comments**
- **DoD considering “Adoption” of the Industry Standard**

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